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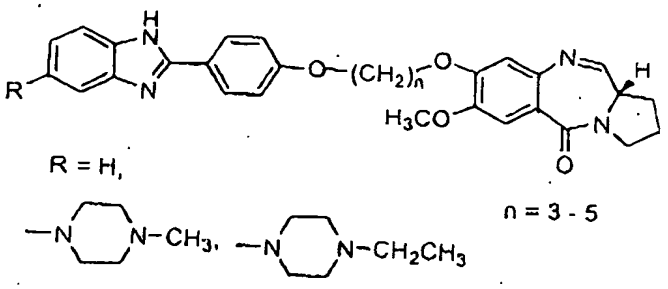
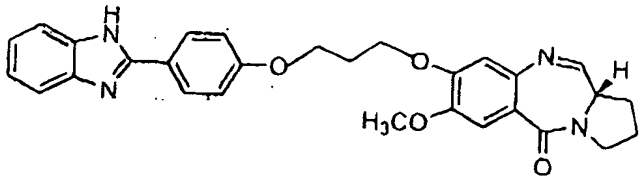
437-NF-03

Claims:

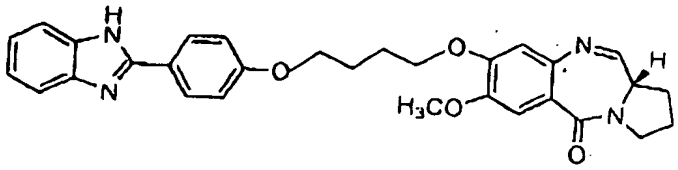
1. A novel pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid of the formula



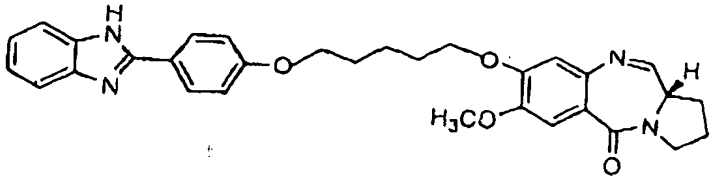
2. A pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid as claimed in claim 1 having the formula



3 A pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid as claimed in claim 1 having the formula

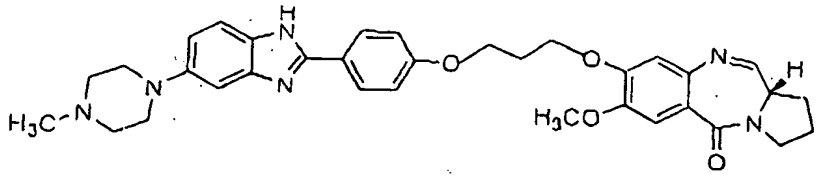


4. A pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid as claimed in claim 1 having the formula

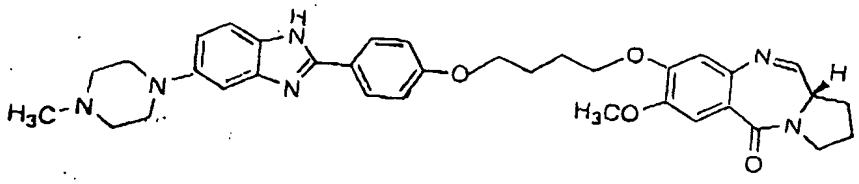


437-NF-03

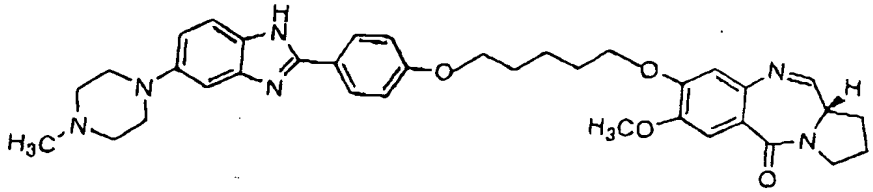
5. A pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid as claimed in claim 1 having the formula



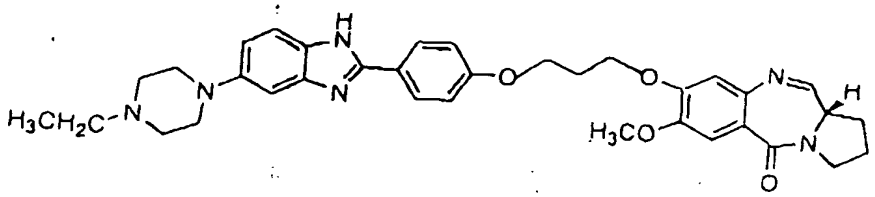
6. A pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid as claimed in claim 1 having the formula



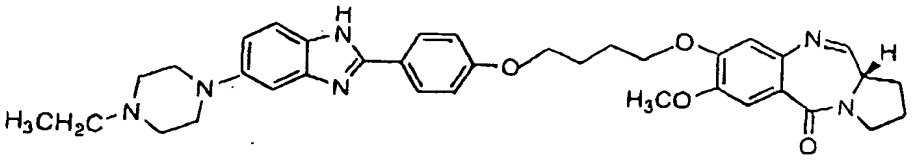
7. A pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid as claimed in claim 1 having the formula



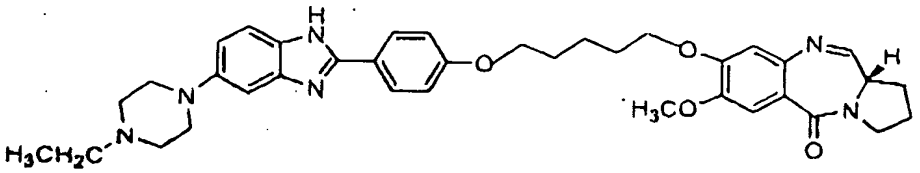
8. A pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid as claimed in claim 1 having the formula



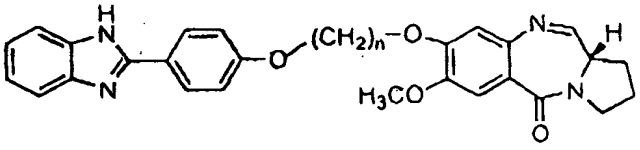
9. A pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid as claimed in claim 1 having the formula



10. A pyrrolo[2, 1-c] [1,4] benzodiazepine hybrid as claimed in claim 1 having the formula

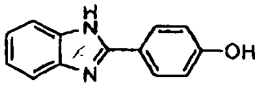


11. A process for the preparation of pyrrolo [2,1-c] 1, 4] benzodiazepine hybrids of formula V



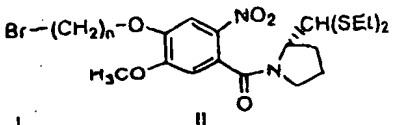
n = 3 - 5 V

which comprises reacting a 4- (1*H*- benzo[d] imidazol-2-yl) phenol of the formula I,



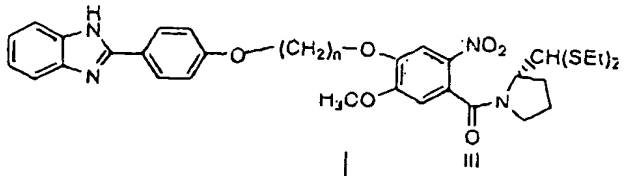
I

with N- [4-(n- bromoalkyloxy)-5- methoxyy-2- nitrobenzo-yl] pyrrolidine- 2-carboxaldehyde diethyl thio acetal of formula II



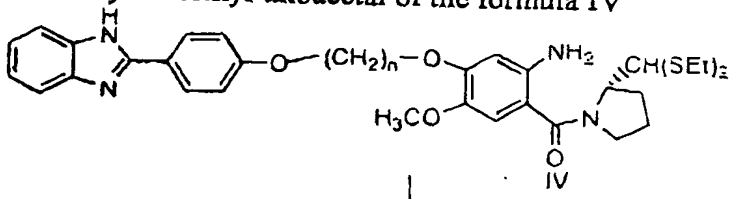
II

in the presence of K_2CO_3 in organic solvent for a period of 12 to 24 hrs, isolating (2S)-N- {4- (1*H*- benoz [d] imidazolo- 2 yl) phenoxy] alkyl – oxy- 5 methoxy- 2-nitrobenzoyl} pyrrolidine-2- carboxaldehyde diethyl thioacetal III



III

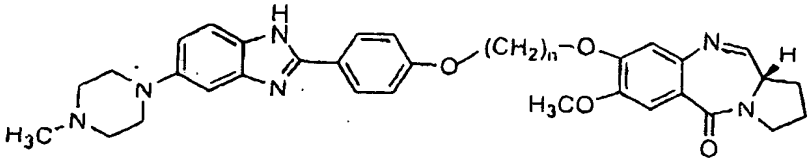
where "n" is 3 to 5, reducing said compound of formula III with $SnCl_2.2H_2O$ in the presence of organic solvent up to a reflux temperature, isolating the (2S) –N- {n- 4- (1 *H*- benzo [d] imidazolo- 2 yl) phenoxy] alkyl]-oxy- 5- methoxy- 2- aminobenzoyly} pyrrolidine- 2- carboxaldehyde diethyl thioacetal of the formula IV



IV

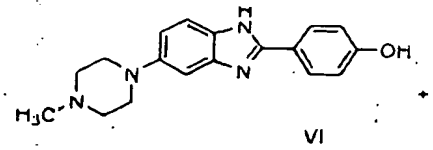
where n is 3 to 5 by known methods, reacting the said amino compound of formula IV with conventional deprotecting agents in to produce pyrrolo [2,1-c] 1, 4] benzodiazepine hybrids of formula V, wherein "n" is as defined above.

12. A process for the preparation of pyrrolo [2,1-c] 1, 4] benzodiazepine hybrids of formula IX



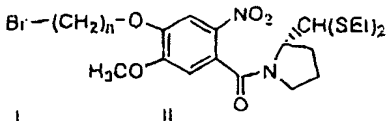
n = 3 - 5 IX

which comprises reacting a 4- [6-4- methylhexahydro- 1- pyraziñyl)- 1*H* – benzo[imidazol- 2- yl] phenol VI



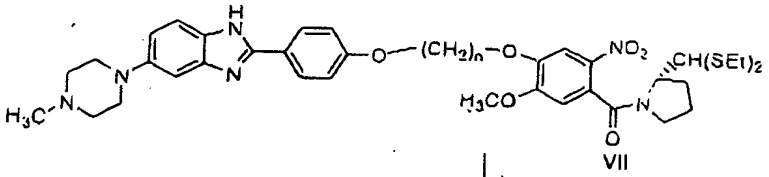
VI

with N- [4-(n- bromoalkyloxy)-5- methoxyy-2- nitrobenzo-yl] pyrrolidine- 2- carboxaldehyde diethyl thio acetal of formula II



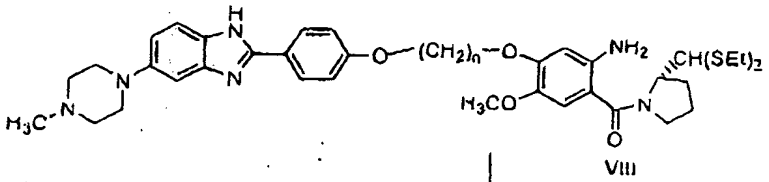
II

in the presence of K_2CO_3 in organic solvent for a period of 12 to 24 hrs, isolating (2S)-N- {n- (4- [6-4- methylhexahydro-1- pyraxinzyl)- 1H- benzo [d] imidazol- 2-yl] phenoxy] alkyl-oxy- 5- methoxy-2- nitrobenzoy pyrrolidine-2- carboxaldehyde diethyl thioacetal VII



VII

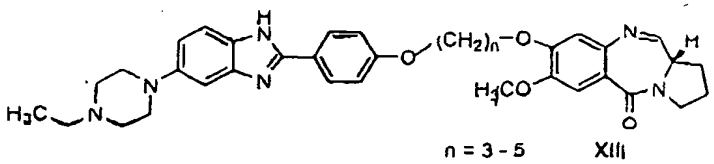
where "n" is 3 to 5, reducing said compound of formula VII with $SnCl_2.2H_2O$ in the presence of organic solvent up to a reflux temperature, isolating (2S)-N- {n- (4- [6-(4-methylhexahydro-1- pyrazinyl)- 1*H*- benzo [d] imidazol-2- yl] phenoxy] alkyl)-o xy-5- methoxy –2- aminobenzoy} pyrrolidine-2- carboxaldehyde diethyl thioacetal VIII



VIII

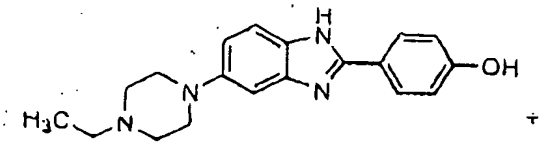
and reacting the said amino compound of formula VIII with conventional deprotecting agents in to produce pyrrolo [2,1-c] 1, 4] benzodiazepine hybrids of formula IX. wherein "n".

13. A process for the preparation of pyrrolo [2,1-c] 1, 4] benzodiazepine hybrids of formula XIII



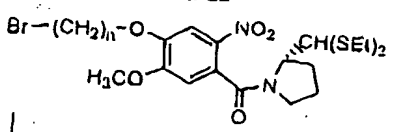
n = 3 - 5 XIII

which comprises reacting a 4- [6-(4- ehtylhexahydro- I- pyrazinyl)- 1*H*- benzo [d] imidazol-2- yl] phenol X



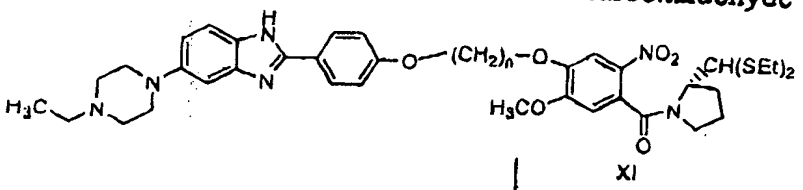
X

with N- [4-(n- bromoalkyloxy)-5- methoxyy-2- nitrobenzo-yl} pyrrolidine- 2- carboxaldehyde diethyl thio acetal of formula II



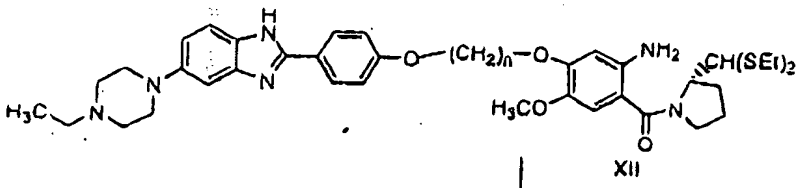
II

in the presence of K_2CO_3 in organic solvent for a period of 12 to 24 hrs, isolating (2S)- N- {n- (4- [6-4- ehtyhexahydro-1- pyrazinyl)- H- benzo [d] imidazol-2- yl] phenoxy] alkyl1] – oxy- 5- methoxy- 2- nitrobenzoyl} pyrrolidine- 2- carboxaldehyde diethyl thioacetal XI



XI

where "n" is 3 to 5, reducing said compound of formula XI with $SnCl_2.2H_2O$ in the presence of organic solvent up to a reflux temperature, isolating (2S)-N- {n-(4-[6-(4-ehtylhexahydro-1- pyrazinyl)-1*H* – benzo[d] imidazol-2- yl] phenoxy] alkyl)- oxy-5- methoxy-2- aminobenzoyl} pyrrolidine- 2- carboxaldehyde diethyl thioacetal XII where n is 3 to 5



XII

and reacting the said amino compound of formula XII with conventional deprotecting agents to produce pyrrolo [2,1-c] 1, 4] benzodiazepine hybrids of formula XIII wherein "n" is as defined above.

14. Use of a pyrrolo [2,1-c] 1, 4] benzodiazepine hybrid compound as claimed in anyone of claims 1to 10 for the preparation of medicament useful for treating tumours.

15. A pharmaceutical composition for use as antitumour agents comprising of an effective amount of a pyrrolo [2,1-c] 1, 4] benzodiazepine hybrid compound as claimed in any one of claims 1 to 10.

16. A method of treating a mammal which comprises administering an affective amount of a pyrrolo [2,1-c] 1, 4] benzodiazepine hybrid compound as claimed in any one of claims 1 to 10.

17. A method of treating a mammal, which comprises administering an affective amount of a pharmaceutical composition as claimed in claim 15.